Supplement of Hydrol. Earth Syst. Sci., 26, 5137–5161, 2022
https://doi.org/10.5194/hess-26-5137-2022-supplement

Hydrology and Earth System Sciences
Open Access
EGU

Supplement of

High-resolution drought simulations and comparison to soil moisture observations in Germany

Friedrich Boeing et al.

Correspondence to: Friedrich Boeing (friedrich.boeing@ufz.de)

Supplements

Table S1: 200 sets of random multi-basin draws used for the multi-basin calibrations. The basin IDs are based on the data archive from Global Runoff Data Centre (GRDC).

number	basin 1	basin 2	basin 3	basin 4	basin 5	basin 6
N01	6336930	6338140	6337502	6340360	6335725	6335116
N02	6335083	6342070	6338800	6335510	6337505	6335303
N03	6335602	6335310	6338161	6335450	6335676	6342081
N04	6338130	6337580	6337410	6335720	6335075	6335650
N05	6335710	6340220	6335610	6335650	6342525	6335190
N06	6335650	6336510	6338140	6341500	6335800	6335830
N07	6335660	6340315	6335460	6335665	6340335	6335730
N08	6342571	6337501	6335700	6340216	6335820	6335800
N09	6335603	6335602	6337518	6335470	6337517	6338800
N10	6337509	6337503	6335450	6335697	6335696	6357510
N11	6335560	6337509	6335830	6338250	6342970	6338100
N12	6335710	6340218	6335351	6337310	6335010	6335290
N13	6337502	6335697	6335167	6335570	6337250	6342130
N14	6337310	6337100	6335696	6337500	6336930	6335620
N15	6335175	6335565	6337310	6335155	6337500	6337504
N16	6342820	6335621	6337510	6337550	6335117	6335620
N17	6340366	6335360	6342105	6335160	6342120	6337512
N18	6337510	6335310	6335510	6335155	6338140	6338161
N19	6337508	6342081	6335156	6335696	6335725	6335570
N20	6335117	6337520	6335032	6338800	6335075	6335301
N21	6337502	6335032	6342980	6337550	6337511	6342070
N22	6337514	6338160	6357510	6337500	6340350	6335125
N23	6337518	6337513	6342060	6338110	6337503	6338161
N24	6340350	6338250	6340335	6335810	6335116	6342960
N25	6342120	6335302	6340320	6335031	6335600	6338130
N26	6335820	6340810	6335603	6335465	6337610	6335031
N27	6335560	6335485	6335160	6335640	6335676	6335700
N28	6337501	6335677	6337506	6335820	6342050	6335810
N29	6337330	6335621	6342980	6342960	6335500	6337500
N30	6340200	6335635	6335031	6337400	6337512	6336930
N31	6338161	6340360	6340366	6340220	6335117	6337511
N32	6335720	6335125	6340350	6337601	6337505	6335485
N33	6335603	6335697	6335360	6335303	6338140	6342522
N34	6338161	6335290	6335681	6342105	6337410	6335510
N35	6335160	6342655	6338140	6337519	6342120	6338163
N36	6337506	6342105	6335310	6335290	6335035	6342810
N37	6335635	6335700	6335303	6338100	6337514	6340210
N38	6335190	6337518	6335820	6335167	6335530	6340440
N39	6337541	6335510	6335010	6342571	6338140	6335450
N40	6342520	6335601	6335540	6335660	6337530	6335116
N41	6337320	6336930	6335696	6335600	6335620	6335032
N42	6335117	6335302	6337340	6335500	6340220	6342100
N43	6342521	6335302	6340220	6337560	6335570	6337350
N44	6335540	6335035	6337501	6335350	6337512	6335650
N45	6335302	6337550	6335500	6338800	6342060	6335690
N46	6337504	6335565	6335650	6340360	6337501	6337570
N47	6340400	6340365	6335165	6335485	6335570	6335640
N48	6335290	6342521	6335500	6335550	6338110	6337501
N49	6343537	6340365	6337050	6335660	6335082	6335310
N50	6342960	6335048	6335190	6337500	6340320	6335082
N51	6335117	6335601	6335291	6335600	6337516	6335175
N52	6337600	6337508	6337330	6335035	6336930	6342130
N53	6335045	6335540	6337518	6338140	6335695	6335301
N54	6335530	6335521	6335730	6335550	6335700	6335676
N55	6335540	6335460	6335651	6335465	6335175	6335810
N56	6335635	6335730	6340315	6337512	6342571	6342675
N57	6335032	6335031	6335725	6335681	6335115	6335800
N58	6340700	6335116	6335725	6342521	6335083	6340050
N59	6335076	6338150	6335695	6335675	6340216	6335603
N60	6335620	6337310	6335697	6335680	6342980	6337542
N61	6340335	6335046	6335032	6335081	6357020	6338163
N62	6342120	6335470	6340218	6337340	6335697	6335720
N63	6335117	6338130	6338161	6335076	6335465	6337508
N64	6335695	6335540	6335730	6335610	6337514	6337542
N65	6342120	6338130	6340200	6335540	6335030	6335165
N66	6338140	6335030	6338260	6335470	6340220	6342125
N67	6337511	6340070	6337509	6337503	6342960	6335820
N68	6342130	6340315	6340700	6335650	6342980	6338110

N69	6340200	6342520	6337512	6335735	6337590	6335450
N70	6335800	6335710	6335082	6335510	6337507	6342105
N71	6335075	6335710	6336510	6335570	6335076	6340330
N72	6335640	6335675	6335076	6337542	6342130	6338800
N73	6335175	6335035	6337550	6337512	6335820	6338161
N74	6337507	6337516	6337519	6340365	6337530	6337060
N75	6342970	6340366	6338120	6340070	6335510	6340340
N76	6335310	6335600	6335510	6337501	6335301	6335640
N77	6335155	6342670	6335075	6337250	6342502	6342125
N78	6335720	6335640	6338100	6337504	6335465	6340340
N79	6335155	6335075	6335540	6335620	6335635	6342050
N80	6338100	6335031	6335830	6342502	6335735	6335650
N81	6335156	6335730	6335602	6335190	6340200	6340810
N82	6340400	6342105	6336510	6337510	6342502	6337410
N83	6335076	6337580	6335470	6337520	6335601	6337505
N84	6340335	6338260	6335671	6342230	6335031	6335710
N85	6337520	6335046	6337503	6335450	6342081	6338260
N86	6342525	6335675	6340225	6335465	6340350	6335800
N87	6337350	6341500	6337550	6335160	6340216	6342960
N88	6335570	6335510	6335310	6335671	6335290	6335500
N89	6337502	6335690	6335360	6335155	6342675	6342810
N90	6337580	6338161	6336510	6335030	6335671	6340365
N91	6335303	6335560	6335115	6335083	6335621	6335031
N92	6335540	6335651	6335290	6342655	6335676	6357020
N93	6335700	6335820	6342640	6335520	6342670	6340365
N94	6335165	6335117	6335651	6340400	6335470	6340315
N95	6337503	6340400	6335485	6337580	6335030	6338130
N96	6335621	6335651	6338800	6338163	6335800	6337513
N97	6338100	6335550	6335115	6335190	6335677	6337250
N98	6335660	6342130	6342070	6335640	6340366	6335117
N99	6357510	6342820	6342520	6335155	6342060	6342081
N100	6335620	6337550	6335083	6337509	6335640	6337330
N101	6342125	6337560	6335602	6342810	6337506	6335450
N102	6335710	6341500	6335610	6340340	6335677	6342810
N103	6335565	6335570	6337610	6335690	6335301	6335725
N104	6335602	6335046	6342960	6335621	6335570	6335031
N105	6340210	6338163	6335485	6340050	6335696	6335450
N106	6335035	6338161	6342960	6337509	6335485	6335610
N107	6335165	6335351	6337516	6335635	6335291	6335620
N108	6335048	6342525	6338110	6340216	6337507	6335083
N109	6335602	6342230	6337501	6335640	6335350	6335735
N110	6335602	6342230	6340366	6337504	6337507	6335083
N111	6337400	6335190	6357510	6335117	6335303	6342640
N112	6337542	6342960	6342125	6335602	6335601	6336510
N113	6337590	6335290	6340220	6335175	6337508	6336930
N114	6335010	6335671	6335081	6337516	6338260	6342521
N115	6338100	6335665	6335465	6335115	6342655	6335725
N116	6335670	6335665	6342521	6342081	6335565	6342060
N117	6337400	6335681	6337507	6335291	6337310	6335521
N118	6337250	6337502	6335565	6335167	6335010	6342960
N119	6335302	6335540	6335710	6341500	6337511	6337505
N120	6335620	6337516	6335500	6337501	6335075	6342105
N121	6340315	6335175	6337514	6340440	6335081	6335035
N122	6337050	6337060	6342230	6337100	6337310	6342100
N123	6340225	6337400	6342130	6342655	6335675	6340335
N124	6337550	6337600	6342520	6337509	6335165	6335310
N125	6335520	6335081	6335603	6335680	6335125	6342230
N126	6335160	6338130	6342105	6337320	6341500	6340225
N127	6342520	6337350	6335603	6335810	6338100	6337509
N128	6337541	6337590	6335601	6335675	6343537	6335680
N129	6337530	6335303	6335602	6335696	6337060	6337600
N130	6335083	6337517	6341500	6337513	6342571	6335810
N131	6335603	6335635	6342670	6335697	6337501	6338140
N132	6335115	6337506	6337520	6335165	6335530	6337518
N133	6335030	6335165	6357020	6335302	6335520	6340400
N134	6337590	6335290	6342640	6335032	6335450	6335650
N135	6335360	6340320	6342520	6335601	6357020	6337601
N136	6340200	6338100	6340220	6337310	6335116	6342230
N137	6337520	6335301	6335117	6335671	6335500	6337400
N138	6335600	6335075	6335082	6335116	6338150	6342081
N139	6342640	6335671	6336930	6338160	6337505	6340335
N140	6357020	6335302	6342522	6335665	6338150	6340360
N141	6335465	6338160	6342675	6337509	6340340	6335720
N142	6340366	6335830	6337610	6337502	6335610	6338150
N143	6335083	6337060	6342655	6335690	6335450	6335670
N144	6337310	6335290	6335160	6335048	6335310	6337503

N145	6337506	6335635	6342060	6343537	6340050	6335621
N146	6335600	6338163	6335116	6335076	6335540	6335310
N147	6337505	6337506	6335675	6335310	6337503	6341500
N148	6340700	6342970	6335048	6337505	6335520	6338140
N149	6342081	6340400	6342100	6335125	6335675	6336930
N150	6335010	6340070	6335048	6337508	6335610	6335671
N151	6335565	6337509	6335735	6338161	6338110	6335601
N152	6342521	6335670	6338800	6335301	6335530	6335155
N153	6342070	6335650	6337504	6335560	6335820	6337590
N154	6337530	6335681	6337060	6335603	6335601	6338120
N155	6342125	6340070	6335031	6335485	6335603	6335465
N156	6335115	6335735	6335450	6340700	6335076	6340810
N157	6335601	6335603	6335076	6335635	6335820	6335697
N158	6335830	6335115	6342980	6335485	6337320	6337506
N159	6337050	6336930	6335075	6340320	6342960	6342120
N160	6337504	6340216	6335032	6337516	6342125	6335125
N161	6335600	6335083	6335350	6335048	6338161	6335530
N162	6335621	6335820	6335610	6342070	6335156	6342655
N163	6335695	6338130	6338260	6342640	6335520	6342050
N164	6335046	6335601	6342110	6337500	6335350	6335610
N165	6335697	6337503	6335725	6337590	6340366	6337513
N166	6337517	6335680	6340360	6340216	6342502	6357510
N167	6337514	6343537	6335710	6342125	6337410	6335302
N168	6335676	6335680	6342810	6335303	6342130	6337550
N169	6335081	6335530	6336510	6335601	6337410	6342130
N170	6342110	6335670	6335696	6340210	6335800	6337513
N171	6337580	6337507	6335470	6335115	6335570	6335510
N172	6337570	6337530	6337503	6342070	6343537	6335725
N173	6342120	6337610	6342660	6335565	6343537	6340320
N174	6335635	6335031	6340400	6335165	6337350	6335800
N175	6335010	6335621	6335675	6340050	6335046	6340366
N176	6340200	6335720	6342810	6342125	6340330	6335710
N177	6342640	6342810	6337508	6337507	6337400	6335302
N178	6342521	6340220	6335010	6342655	6337320	6337504
N179	6337320	6342670	6338160	6338161	6337542	6342521
N180	6342670	6335600	6337512	6342522	6335290	6335695
N181	6335560	6335665	6340330	6337513	6335125	6335690
N182	6335680	6337500	6335030	6337519	6342060	6337601
N183	6357020	6335720	6335082	6338163	6342970	6337516
N184	6340350	6337330	6337560	6340320	6337500	6335115
N185	6357020	6338110	6337505	6338120	6338150	6337511
N186	6335610	6335720	6335290	6337510	6335046	6335650
N187	6340216	6335082	6342105	6335550	6335351	6337560
N188	6335301	6342960	6337330	6335360	6335520	6335735
N189	6337508	6335155	6337516	6337512	6337511	6342675
N190	6340440	6337580	6335470	6336930	6338150	6342060
N191	6340810	6342655	6335310	6342670	6337508	6342070
N192	6335010	6342980	6335680	6335600	6335621	6335565
N193	6335680	6342130	6337060	6338250	6343537	6335500
N194	6335650	6337560	6335600	6335725	6342110	6335160
N195	6338160	6335651	6337508	6338161	6340366	6337510
N196	6337518	6335076	6340218	6338150	6335650	6335697
N197	6342060	6337507	6335681	6337600	6335165	6335730
N198	6335650	6335160	6340440	6357020	6335167	6340200
N199	6343537	6342100	6338250	6342640	6337510	6338260
N200	6335303	6338120	6337250	6338260	6337610	6335485

Table S2: Calibration results of the final selected best mHM parameter set for the 201 basins in Germany (N151). Daily (day) and monthly (mon) NSE and KGE metrics are shown as well as their three components r (correlation), alpha (bias) and beta (variability). The best calibration parameter set was selected based on the median of daily KGE over all 201 catchments. The basin IDs are based on the data archive from Global Runoff Data Centre (GRDC).

num	ID	NSE mon	KGE mon	r mon	alpha mon	beta mon	NSE day	KGE day	r day	alpha day	beta day
1	6337200	0.938	0.942	0.972	1.050	1.010	0.795	0.816	0.924	1.167	1.010
2	6335304	0.925	0.847	0.979	1.139	1.060	0.836	0.786	0.950	1.200	1.061
3	6337515	0.931	0.913	0.971	1.080	1.019	0.790	0.780	0.931	1.208	1.019
4	6335240	0.936	0.900	0.975	1.090	1.035	0.825	0.819	0.937	1.166	1.035
5	6337517	0.923	0.896	0.970	1.091	1.039	0.801	0.785	0.935	1.201	1.039
6	6337518	0.932	0.933	0.970	1.056	1.019	0.831	0.831	0.938	1.156	1.020
7	6335302	0.925	0.857	0.977	1.130	1.055	0.783	0.787	0.926	1.192	1.056
8	6337100	0.937	0.951	0.971	1.039	1.004	0.822	0.845	0.930	1.139	1.004

9	6337514	0.936	0.922	0.973	1.073	1.004	0.805	0.823	0.927	1.161	1.004
10	6337516	0.953	0.951	0.978	1.044	0.996	0.850	0.875	0.938	1.109	0.996
11	6337250	0.900	0.883	0.961	1.100	1.047	0.647	0.741	0.878	1.224	1.048
12	6335500	0.942	0.919	0.978	1.046	0.937	0.768	0.832	0.906	1.125	0.937
13	6337519	0.957	0.963	0.980	1.025	0.981	0.845	0.885	0.933	1.092	0.981
14	6335301	0.952	0.927	0.981	1.054	0.955	0.791	0.846	0.914	1.120	0.955
15	6335600	0.949	0.917	0.979	1.078	1.018	0.908	0.932	0.958	1.049	1.019
16	6337400	0.957	0.972	0.979	0.996	0.983	0.847	0.909	0.929	1.054	0.983
17	6335303	0.947	0.895	0.982	1.093	0.954	0.767	0.824	0.908	1.143	0.954
18	6338140	0.977	0.964	0.989	0.978	0.973	0.923	0.933	0.961	0.953	0.972
19	6338100	0.969	0.927	0.988	0.958	0.942	0.914	0.906	0.958	0.939	0.942
20	6335601	0.931	0.911	0.973	1.064	1.056	0.891	0.895	0.954	1.076	1.056
21	6337501	0.870	0.787	0.966	1.195	1.078	0.735	0.745	0.916	1.228	1.078
22	6335530	0.762	0.635	0.962	1.362	0.976	0.558	0.588	0.899	1.399	0.975
23	6337510	0.877	0.919	0.942	1.014	1.054	0.614	0.751	0.856	1.195	1.055
24	6337507	0.934	0.922	0.972	1.069	1.023	0.768	0.863	0.897	1.087	1.023
25	6340200	0.757	0.809	0.910	1.143	1.089	0.144	0.482	0.785	1.462	1.090
26	6337513	0.935	0.966	0.968	1.010	1.004	0.788	0.853	0.911	1.118	1.004
27	6337509	0.885	0.912	0.948	1.012	1.070	0.675	0.757	0.884	1.201	1.071
28	6337511	0.933	0.939	0.970	1.025	1.047	0.766	0.813	0.911	1.158	1.047
29	6338110	0.957	0.866	0.987	0.881	0.940	0.888	0.822	0.951	0.840	0.940
30	6337502	0.921	0.867	0.979	1.015	0.870	0.795	0.826	0.921	1.085	0.870
31	6337512	0.939	0.958	0.969	0.977	1.016	0.764	0.856	0.897	1.099	1.017
32	6335800	0.929	0.802	0.982	0.819	0.923	0.771	0.791	0.881	0.846	0.924
33	6335083	0.852	0.759	0.973	1.087	1.223	0.824	0.749	0.945	1.100	1.224
34	6335030	0.950	0.900	0.983	1.017	1.097	0.851	0.874	0.933	1.047	1.096
35	6342502	0.676	0.728	0.927	1.163	1.205	0.138	0.468	0.798	1.448	1.206
36	6335115	0.948	0.902	0.977	0.941	1.075	0.855	0.797	0.932	0.825	1.076
37	6335602	0.911	0.870	0.964	0.897	0.929	0.893	0.891	0.948	0.935	0.930
38	6338130	0.905	0.735	0.988	0.770	0.869	0.825	0.683	0.944	0.717	0.869
39	6335350	0.964	0.899	0.986	0.902	0.982	0.865	0.803	0.938	0.814	0.982
40	6340700	0.818	0.847	0.928	1.127	0.956	0.737	0.794	0.903	1.176	0.958
41	6337506	0.967	0.969	0.983	0.975	0.992	0.807	0.852	0.899	0.892	0.992
42	6338160	0.943	0.859	0.984	1.135	0.965	0.879	0.852	0.956	1.137	0.964
43	6337500	0.851	0.825	0.929	0.861	1.080	0.722	0.809	0.854	0.907	1.080
44	6338120	0.900	0.774	0.972	0.800	0.900	0.763	0.652	0.906	0.681	0.899
45	6335045	0.981	0.949	0.992	0.958	1.027	0.873	0.871	0.936	0.892	1.027
46	6335116	0.962	0.952	0.982	0.978	1.038	0.873	0.838	0.939	0.855	1.038
47	6342970	0.691	0.755	0.888	0.966	1.215	0.460	0.660	0.804	1.174	1.216
48	6337508	0.974	0.965	0.987	0.969	0.988	0.843	0.866	0.919	0.894	0.988
49	6342521	0.817	0.833	0.934	1.098	1.118	0.292	0.557	0.803	1.378	1.119
50	6338161	0.969	0.928	0.989	1.046	0.946	0.925	0.931	0.966	1.025	0.946
51	6335081	0.907	0.940	0.956	1.029	0.973	0.696	0.761	0.894	1.212	0.973
52	6335031	0.849	0.755	0.970	1.094	1.225	0.788	0.724	0.934	1.146	1.225
53	6335290	0.937	0.825	0.982	0.838	0.936	0.824	0.713	0.931	0.729	0.936
54	6335681	0.946	0.943	0.975	1.000	1.051	0.844	0.905	0.922	0.985	1.052
55	6335351	0.960	0.910	0.983	0.913	0.982	0.871	0.803	0.942	0.813	0.981
56	6335520	0.775	0.789	0.923	1.151	1.125	0.726	0.782	0.894	1.142	1.126
57	6342130	0.915	0.796	0.973	0.803	0.955	0.757	0.730	0.878	0.764	0.956
58	6338150	0.953	0.948	0.978	0.972	0.962	0.839	0.813	0.921	0.835	0.962
59	6335660	0.854	0.788	0.964	1.165	1.128	0.722	0.684	0.928	1.279	1.129
60	6335046	0.968	0.901	0.988	0.906	0.969	0.850	0.822	0.926	0.842	0.969
61	6337505	0.641	0.817	0.837	1.082	0.989	0.031	0.564	0.603	1.179	0.989
62	6340050	-0.892	-0.287	0.949	2.286	0.979	-0.440	-0.008	0.892	2.002	0.977
63	6341500	0.459	0.587	0.918	0.863	0.619	0.413	0.581	0.856	0.903	0.619
64	6342520	0.880	0.863	0.941	0.882	0.963	0.468	0.742	0.752	1.062	0.963
65	6340365	0.701	0.808	0.885	1.107	0.891	0.563	0.761	0.815	1.104	0.891
66	6337050	0.945	0.880	0.982	1.106	1.055	0.905	0.876	0.964	1.105	1.055
67	6337504	0.936	0.800	0.985	0.801	0.999	0.829	0.776	0.920	0.791	0.999
68	6337610	0.940	0.914	0.971	0.920	0.993	0.772	0.884	0.891	1.037	0.993
69	6335160	0.862	0.760	0.976	1.141	1.193	0.828	0.751	0.949	1.147	1.194
70	6335082	0.698	0.721	0.922	1.193	1.186	0.315	0.465	0.866	1.483	1.186
71	6337550	0.909	0.817	0.967	0.854	0.894	0.806	0.710	0.919	0.742	0.894
72	6335521	0.883	0.864	0.942	0.878	1.019	0.802	0.801	0.899	0.830	1.021
73	6337601	0.949	0.940	0.977	0.988	0.946	0.887	0.874	0.944	0.900	0.946
74	6342522	0.881	0.813	0.953	0.877	1.133	0.623	0.756	0.806	0.935	1.134
75	6337060	0.879	0.857	0.961	0.983	0.864	0.789	0.778	0.904	0.854	0.863
76	6335125	0.922	0.893	0.967	0.940	1.082	0.867	0.886	0.934	0.958	1.083
77	6342110	0.512	0.440	0.946	1.556	1.038	0.315	0.344	0.922	1.650	1.038
78	6335310	0.961	0.942	0.983	1.041	1.038	0.751	0.861	0.887	1.072	1.038
79	6340320	0.850	0.914	0.925	0.978	1.035	0.508	0.725	0.811	1.197	1.036
80	6337570	0.932	0.912	0.972	1.078	0.972	0.837	0.914	0.919	1.002	0.972
81	6335048	0.967	0.891	0.991	1.093	1.056	0.886	0.918	0.946	1.027	1.055
82	6335460	0.918	0.952	0.961	1.021	1.018	0.856	0.880	0.926	0.908	1.019
83	6342980	0.920	0.840	0.968	0.846	0.970	0.832	0.883	0.913	0.928	0.971
84	6357020	-0.979	0.370	0.837	0.894	0.401	-0.841	0.364	0.795	0.951	0.400

85	6335291	0.916	0.785	0.976	0.792	0.951	0.824	0.724	0.928	0.738	0.951
86	6342670	0.653	0.655	0.943	1.286	1.185	0.632	0.747	0.828	0.989	1.185
87	6336930	0.971	0.970	0.986	1.012	1.023	0.908	0.935	0.953	0.961	1.023
88	6335540	0.911	0.793	0.971	0.799	1.038	0.828	0.811	0.914	0.837	1.038
89	6335670	0.726	0.620	0.969	1.265	1.271	0.557	0.504	0.922	1.408	1.271
90	6335695	0.920	0.879	0.963	0.887	1.020	0.873	0.871	0.935	0.891	1.021
91	6335076	0.965	0.934	0.985	0.988	1.063	0.859	0.847	0.929	0.880	1.063
92	6335360	0.967	0.875	0.990	0.876	1.013	0.890	0.836	0.949	0.844	1.013
93	6335450	0.906	0.858	0.957	0.868	0.968	0.844	0.841	0.921	0.866	0.969
94	6340810	-1.298	0.423	0.717	1.038	0.499	-0.560	0.436	0.744	0.978	0.498
95	6340070	0.410	0.367	0.963	1.590	1.227	0.372	0.368	0.940	1.587	1.227
96	6338250	0.896	0.880	0.956	0.937	0.908	0.788	0.757	0.899	0.800	0.907
97	6335510	0.054	0.385	0.830	1.525	1.273	-0.368	0.140	0.824	1.796	1.273
98	6335690	0.937	0.895	0.979	1.076	1.069	0.802	0.807	0.898	0.851	1.068
99	6337530	0.967	0.911	0.986	0.918	0.967	0.864	0.817	0.936	0.832	0.967
100	6337560	0.783	0.795	0.888	0.842	0.932	0.672	0.684	0.824	0.746	0.932
101	6335675	0.905	0.893	0.964	1.063	1.078	0.702	0.715	0.843	0.776	1.079
102	6342120	-0.134	0.066	0.942	1.929	1.073	0.273	0.420	0.872	1.560	1.074
103	6337520	0.930	0.809	0.979	0.814	0.963	0.803	0.789	0.900	0.818	0.962
104	6338800	0.927	0.945	0.966	1.023	0.964	0.882	0.929	0.941	0.984	0.964
105	6335710	0.929	0.917	0.969	0.968	1.070	0.822	0.887	0.912	0.991	1.070
106	6335603	0.919	0.820	0.971	0.827	0.959	0.783	0.697	0.906	0.714	0.960
107	6342070	0.497	0.756	0.763	1.054	1.020	-0.000	0.519	0.679	1.357	1.021
108	6335032	0.927	0.942	0.966	1.043	1.019	0.727	0.839	0.882	1.108	1.019
109	6337410	0.924	0.872	0.969	0.903	0.921	0.780	0.710	0.900	0.740	0.921
110	6335650	0.702	0.712	0.919	1.263	1.087	0.620	0.711	0.876	1.245	1.088
111	6340218	-2.784	-0.761	0.922	2.755	0.878	-1.504	-0.268	0.824	2.250	0.877
112	6342640	0.532	0.507	0.924	1.485	1.047	0.472	0.722	0.790	1.176	1.047
113	6342100	0.337	0.445	0.887	1.541	0.953	0.524	0.654	0.858	1.312	0.954
114	6342655	-0.166	0.287	0.893	1.651	1.272	0.423	0.611	0.815	1.207	1.272
115	6335167	0.329	0.362	0.969	1.560	1.304	0.397	0.417	0.923	1.492	1.303
116	6340220	0.369	0.507	0.776	1.042	1.437	0.339	0.480	0.765	1.151	1.438
117	6335075	0.784	0.739	0.940	1.254	0.986	0.632	0.793	0.847	1.139	0.984
118	6340335	-3.081	-0.289	0.340	1.755	1.811	-2.381	-0.162	0.168	1.638	1.501
119	6335810	0.938	0.873	0.975	0.898	1.071	0.786	0.734	0.898	0.765	1.071
120	6335565	0.834	0.782	0.931	0.832	1.120	0.736	0.655	0.880	0.700	1.120
121	6338163	0.917	0.889	0.970	1.081	0.930	0.819	0.888	0.914	1.019	0.930
122	6337340	0.899	0.929	0.951	0.982	1.048	0.699	0.805	0.879	1.144	1.048
123	6340210	0.921	0.957	0.962	1.017	1.011	0.839	0.850	0.917	0.876	1.010
124	6337541	0.891	0.940	0.945	0.988	0.977	0.814	0.903	0.910	1.030	0.977
125	6335117	0.766	0.759	0.914	0.912	0.793	0.713	0.697	0.867	0.824	0.793
126	6342675	0.612	0.667	0.919	1.271	1.175	0.588	0.670	0.779	0.828	1.175
127	6340350	0.716	0.674	0.935	1.141	1.287	0.624	0.667	0.862	1.095	1.288
128	6335190	-1.020	-0.127	0.839	2.103	1.164	-1.454	-0.252	0.810	2.227	1.162
129	6342230	0.082	0.439	0.934	1.417	1.369	0.021	0.252	0.896	1.642	1.370
130	6337310	0.914	0.844	0.966	0.888	1.103	0.852	0.812	0.929	0.860	1.103
131	6340315	0.889	0.826	0.959	0.986	1.168	0.782	0.800	0.903	1.044	1.169
132	6335621	-1.611	-0.208	-0.203	1.075	1.090	-1.398	-0.084	-0.075	1.107	1.088
133	6340440	0.879	0.861	0.959	1.085	0.898	0.768	0.813	0.882	0.897	0.897
134	6340360	0.764	0.644	0.911	0.658	1.042	0.672	0.617	0.841	0.654	1.044
135	6340366	0.868	0.838	0.946	0.892	0.893	0.647	0.612	0.822	0.672	0.892
136	6337542	0.845	0.826	0.941	0.912	0.862	0.808	0.835	0.913	0.973	0.862
137	6335470	0.663	0.641	0.950	1.323	1.150	0.694	0.712	0.914	1.230	1.151
138	6336510	0.881	0.743	0.982	1.107	1.233	0.821	0.754	0.923	0.983	1.233
139	6342105	0.513	0.484	0.929	1.509	1.043	0.622	0.643	0.904	1.341	1.043
140	6335465	0.871	0.868	0.945	0.915	1.084	0.819	0.851	0.908	0.919	1.084
141	6335697	0.918	0.895	0.963	0.940	1.077	0.675	0.628	0.839	0.673	1.077
142	6335610	-0.386	0.281	0.732	1.655	1.128	-0.707	0.063	0.777	1.897	1.158
143	6342060	0.812	0.825	0.905	0.863	1.052	0.624	0.808	0.815	1.011	1.052
144	6335010	0.938	0.886	0.972	0.894	0.969	0.867	0.823	0.937	0.838	0.969
145	6337350	0.903	0.856	0.955	0.864	0.982	0.585	0.794	0.811	1.079	0.983
146	6340330	0.766	0.771	0.923	0.894	0.812	0.714	0.716	0.870	0.831	0.812
147	6340225	-1.133	-0.213	0.853	2.203	0.938	-1.085	-0.126	0.796	2.107	1.014
148	6337600	0.923	0.902	0.969	0.985	0.909	0.824	0.825	0.912	0.881	0.908
149	6335651	0.537	0.628	0.882	1.344	0.924	0.442	0.663	0.813	1.270	0.924
150	6335640	-0.024	0.255	0.921	1.649	1.357	0.275	0.353	0.892	1.529	1.357
151	6337320	0.920	0.945	0.960	0.975	0.972	0.842	0.905	0.927	1.053	0.972
152	6342820	0.930	0.916	0.971	1.069	1.038	0.811	0.878	0.902	0.937	1.038
153	6340400	0.694	0.765	0.895	1.186	0.902	0.583	0.718	0.773	0.865	0.902
154	6335730	0.905	0.911	0.957	0.976	1.074	0.701	0.796	0.881	1.148	1.074
155	6335820	0.771	0.696	0.960	1.230	1.194	0.692	0.678	0.910	1.240	1.195
156	6342081	0.044	0.399	0.916	1.326	1.498	0.392	0.444	0.859	1.199	1.499
157	6335175	0.028	0.199	0.934	1.770	1.210	0.042	0.246	0.899	1.717	1.209
158	6335035	0.814	0.812	0.905	0.838	0.994	0.403	0.509	0.636	0.670	0.995
159	6338260	-0.863	-0.249	0.935	2.247	0.961	-0.379	0.195	0.783	1.774	0.959
160	6335676	0.857	0.843	0.952	1.047	1.141	0.627	0.641	0.800	0.738	1.142

161	6335700	-3.456	-0.483	0.862	1.887	2.181	-1.554	-0.472	0.749	1.839	2.183
162	6335680	0.889	0.753	0.966	0.756	0.990	0.790	0.715	0.906	0.731	0.991
163	6357510	0.700	0.765	0.864	0.885	0.847	0.480	0.488	0.709	0.607	0.847
164	6335830	-0.740	-0.046	0.836	2.033	1.034	-0.839	-0.063	0.819	2.047	1.032
165	6335550	0.441	0.612	0.845	0.777	0.723	0.333	0.632	0.777	1.095	0.724
166	6340340	0.747	0.604	0.915	0.616	0.954	0.632	0.510	0.860	0.532	0.955
167	6335620	0.900	0.838	0.962	1.016	1.157	0.841	0.807	0.921	0.922	1.157
168	6342810	0.418	0.575	0.906	1.142	1.389	-0.102	0.331	0.776	1.496	1.390
169	6337330	0.891	0.857	0.948	0.870	0.972	0.823	0.853	0.908	0.889	0.972
170	6342525	0.774	0.762	0.938	1.134	1.187	0.738	0.776	0.890	1.056	1.187
171	6335635	0.917	0.931	0.958	0.945	0.998	0.674	0.655	0.832	0.698	0.999
172	6335720	0.896	0.831	0.955	0.848	1.058	0.789	0.856	0.890	0.926	1.057
173	6342660	0.797	0.874	0.910	1.088	1.007	0.716	0.786	0.846	0.851	1.008
174	6335696	0.854	0.832	0.928	0.848	0.993	0.738	0.870	0.872	1.021	0.994
175	6335155	-1.910	-0.279	0.896	2.177	1.490	-3.707	-0.717	0.729	2.623	1.490
176	6335671	0.834	0.795	0.949	1.138	1.143	0.417	0.562	0.849	1.386	1.143
177	6342050	0.380	0.425	0.834	0.581	0.643	0.432	0.369	0.769	0.534	0.643
178	6342125	0.229	0.381	0.931	1.580	1.205	0.588	0.724	0.822	1.047	1.206
179	6342571	-0.162	0.491	0.574	1.256	1.107	-0.455	0.347	0.615	1.517	1.106
180	6335560	0.691	0.746	0.887	0.955	1.222	0.703	0.703	0.855	0.868	1.223
181	6335665	0.767	0.818	0.925	0.932	0.848	0.593	0.690	0.788	0.833	0.849
182	6335725	0.881	0.839	0.944	0.851	1.026	0.801	0.817	0.896	0.852	1.026
183	6337590	0.799	0.625	0.961	0.811	1.321	0.800	0.618	0.921	0.811	1.322
184	6335677	0.884	0.784	0.955	0.792	0.964	0.649	0.579	0.836	0.614	0.964
185	6342960	0.863	0.862	0.946	1.127	0.989	0.706	0.852	0.852	0.994	0.990
186	6335485	-0.041	0.306	0.891	1.595	1.339	0.038	0.372	0.800	1.489	1.339
187	6335156	0.812	0.740	0.952	1.145	1.211	0.765	0.766	0.896	1.002	1.210
188	6335735	0.921	0.851	0.975	0.923	1.125	0.810	0.787	0.906	0.857	1.126
189	6337503	0.557	0.767	0.815	1.136	0.962	-0.284	0.447	0.563	1.338	0.961
190	6343537	0.569	0.685	0.918	1.199	1.230	0.546	0.629	0.863	1.257	1.230
191	6335165	-0.127	0.194	0.934	1.729	1.337	0.007	0.289	0.866	1.612	1.337
192	6340216	-0.755	0.075	0.927	1.632	1.672	-0.028	0.242	0.828	1.309	1.671
193	6337580	0.910	0.865	0.958	0.873	0.985	0.807	0.784	0.904	0.807	0.985
194	6335570	0.818	0.853	0.912	0.903	0.933	0.742	0.853	0.871	0.979	0.932
195	6342945	0.635	0.805	0.849	1.027	1.120	0.570	0.764	0.799	1.032	1.120
196	6343120	0.547	0.633	0.887	1.027	1.348	0.511	0.578	0.834	1.174	1.347
197	6343520	0.722	0.817	0.902	1.059	1.143	0.638	0.777	0.834	1.044	1.142
198	6342540	-0.031	0.439	0.818	1.352	1.397	0.306	0.504	0.755	1.169	1.397
199	6342940	-7.264	-1.095	0.607	3.034	1.311	-15.740	-2.599	0.661	4.569	1.311
200	6337300	0.900	0.831	0.964	0.903	1.134	0.846	0.799	0.930	0.870	1.136
201	6342947	0.778	0.845	0.904	0.981	1.120	0.679	0.748	0.828	0.861	1.121